INTEGRATED WASHING AND STERILIZATION PROCESS

This application is a continuation-in-part of U.S. Application Serial No. 09/746,106 filed December 22, 2000, which is a continuation-in-part of U.S. Patent No. 6,203,756 issued on March 20, 2001, each of which is incorporated herein by reference.

now U.S. Patent No. 6,656,427

Background of the Invention

This invention relates to systems and processes for chemical sterilizing or disinfecting medical devices.

Medical instruments have traditionally been sterilized or disinfected using either heat such as is provided by steam, or a chemical in liquid, gas, or vapor state. Prior to sterilization or disinfection, the instruments to be treated are usually first cleaned and then sterilized or disinfected. Several devices and methods have been developed for washing and sterilizing a device in a single process within a single container and without having to transfer the device from a washing apparatus to a sterilizing apparatus. Heretofore these applications have been limited to processes employing liquid based sterilants.

U.S. Patent No. 5,443,801 discloses a transportable cleaning/sterilizing apparatus and method for inside-outside washing and sterilization of medical/dental instruments. The apparatus functions in four sequential cycles: wash, rinse, sterilize, and dry. The sterilization step is conducted using ozonated and purified water, and the drying step is accomplished by injecting ozonated/deozonated sterile warm dry oxygen, or sterile inert gas into and exhausted from the wash chamber under a positive pressure relative to atmospheric. In this process, the device has to be rinsed with purified water after it is sterilized to remove sterilant residue before drying step.

U.S. Patent No. 5,505,218 to Steinhauser et al. discloses a device for cleaning, disinfecting and maintaining medical or dental instruments. The device has a pot-shaped container with a multiplicity of mountings in the interior of the container each for one of tool holder, a water supply system, a compressed air supply system, and an